

PHILMONT Mobile RADIO CLUB INC.

The

BLURB

AREA MEMBER

December
1965

Your Choice!
PHILMONTERS



Holiday
Greetings

FROM PHILMONT

K3EZJ

K3DJE

W3OEJ

W3JYA

K3

CANDIDATES

The BLURB is published monthly by and for the members of the Phil-Mont Mobile Radio Club. Our purpose is to further the interest of amateur radio in general and mobile radio in particular. We endeavor to keep the news accurate, interesting, and, in a small way, educational. Copying and quoting is permitted, with a credit line, and we gladly exchange subscriptions with other clubs.

DEADLINE

The BLURB is mailed on the last Monday of each month. All material must be in the hands of the Department Editor before the 15th of the month.

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Swap and Shop	K3QQH
Features	W3MHR
Art	WA3CNI
Technical Drawing	WA2RDC

CIRCULATION AND PRINTING

Publisher	W3LEM
Printers	
Boss Stitcher	W3VV8
Collator	W3QQH

NET AND NET FREQUENCIES

Channel 1-29.493 mc
Channel 2-29.626 mc
Channel 3-147.78 mc
Channel 4-50.70 mc
Channel 5-52.525 mc (FM)
Channel 6-3993 kc (SSB)

NETS TIME

Ten-On-Ten	Sundays 1000-1100
Orange Juice	Weekdays 0700-0730
Scrambled Egg	Weekdays 0730-0830
Executive	Weekdays 0830-0900

Channel 1 (29.493 mc) is monitored daily from 0900-2400 for the benefit of mobiles in the Philadelphia and suburban area.

1965 CLUB OFFICERS

President:	Joseph Elmaleh, K3HIJ
V.President:	William Bubeck, W3YHV
Secretary:	Robert Cox, K3CEE
Treasurer:	Charles Greenwood, W3GOW
Directors:	K3DJE(E65); K3GNM(E66); W3OKW(E67); W3GIF(A); W3WPD(A); and all 1965 club officers.



THE PREZ SEZ

This is my twelfth and last Prez Sez. I would, therefore, like to use this forum for my report to you of my views of our activities to the past year.



I came to the Presidency with doubt as to the vitality of our club. I leave the office with confidence in its future. This is not to say that I feel that this year was a great one for the club, but rather that I have learned to recognize certain truths about Phil-Mont and to live with them.

All Phil-Monters are divided into two groups--The actives and the inactives.

A member may be elected to office by the votes of the inactives, but nothing he proposes for the club can be a success unless that particular proposal receives the support of one or more of the leaders of the actives. Regardless of promises to the contrary, the inactives remain inactive!

The actives provide the club with its vitality, but limit any attempts to broaden the scope of its social and ham activities.

We cannot do without our present workhorses; however, we must realize that the very omnipresence of their activity and control tends to deter other members from taking a sufficiently active part in the management of and participation in club projects.

The problem which faces Phil-Mont in the ensuing years is not that we lack a nucleus of interested and active members, but rather that because of increasing age and responsibilities these members cannot be expected to carry the burden of the club forever.

It is, therefore, imperative, in my opinion, that whoever is elected to office for the comming year must consider the future of the club, not for just one year, but for many years and must exercise his office in such a manner to encourage increased activity by all the members, and to encourage the augmentation of our membership with hams with leadership and activity potential.

With these comments I close out my year as your president. It is my sincere hope that the incomming officers will face their responsibilities to the membership, to amateur radio, and the community, as befits true Phil-Monters, may they "Go from strength to strength."

Seasons Greetings to you all from

Miriam, Mike and Joe

DECEMBER CALENDAR

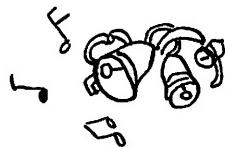
December 6 Regular Meeting, 8:00 P.M., Franklin Institute

December 15 Mid-Month Meeting, 8:00 P.M., To be announced

December 27 "BLURB" Folding W3LEM's



IT SEEKS TO ME



At the November meeting someone raised the point of early check-ins on the 10 on 10 net.

It was requested that comment be made in the "December Blurb" regarding this matter. Discussion continued, however, to include other phases with no solution, resolution, or formal action. So I'll try to take the "Bull by the Horns" and hope I don't find myself with a "Tiger by the Tail."

There were six phases of net operation mentioned if my memory and notes serve me well. They are namely:

1. Early check-ins
2. Getting an assigned number from Net Control
3. Waiting your turn
4. Late Comers
5. New Comers
6. Traffic

Let's take the above listed items and discuss them. They are all related and defy separate coverage, therefore, we will try to look at it in the broadest sense possible, the subline to the ridiculous.

Let's start with "Early Check-ins" since this instigated the discussion. Let's ask first "Why the Early Check-in?" Some of the answers will run like this: I'm going to leave for church, the shore, the mountain, to pick up my daughter, and I'll be out of range, to meet the plane, etc. Are there some anterior motives? Would mental telepathy bring such thoughts as -- I don't want to wait until he gets to my call, or I'd like a low number, or I'll check in ahead of that so and so. Maybe the net runs too slow to suit you and I'm sure with your help we can double or triple your justification for an early check-in.

This justification may, however, not qualify as justification in the minds of many others and, therefore, their objections.

Why do we have a net anyway? Why give numbers? What about the breakers, and so-on?

The 10 on 10 net meets at 10 A.M. Sunday morning on 10 meters, 29.493 mc to be exact. Why at 10 A.M. Sunday? Is this not the time found most convenient by the majority to get together? Get together for what? The fellowship, yes, the fellowship with your fellow club members and amateurs to pass the greetings, make announcements, general chit-chat and kibitzing. If we would examine the logs of the net control stations we would see some calls there regularly, others frequently, some seldom and then there are those who never made it.

The net has continued to exist due to the leadership behind it. The leadership of dedicated Phil-Monters over the past years has continued to keep check-ins high in number. Each Phil-Monter, acting as net control has chosen to inject his personality into his net control procedure, in the past and, it seems to me, was liked for it. In spite of this variation, there has evolved a general pattern of conduct of a net that has been followed. There are such

"Rules of Net Operation," considered as standard. Phil-Mont has chosen not to be regimented by hard and fast rules nor to reject what might be regarded as desirable procedure or conduct.

The success of the 10 on 10 net cannot be measured by the net control operator alone as he alone does not make a net. Neither would a net last long without one. The stations checking in do much to make it what it is. The net control station would be quite alone without check-ins and the more the merrier. Now if time permits its a lot of fun to hear who checks in and sometimes QSO someone a bit later, but how many check-ins? Oh well, let's see, we gave each check-in a number in the order they were recognized; and if I checked in I was one of 45 or maybe one of 70. What was my number? Personally I don't care. Maybe you do. Whether you were #1 and I the last one, we are one of the group, enjoying such congeniality, fellowship, humor, wit and information, and I hope not irritation, aggravation, courtesy or disrespect as radaites from that antenna.

Oh yes, and then there is the breaker. Remember way back when this breaker stuff was new? It worked so well we just kept on using it and seems to have become sort of a standard around Phil-Mont and the bands. It works so nice to let the other fellow know you are there. It's just as nice when the other fellow remembers you and then recognizes you on his next transmission. It's funny sometimes, when we get a breaker and upon quick recognition from net control seems to say, "I'm here, here I am. Just got down here." Sounding like he woke from a dream, saw it was 10:15 and the filaments just reached temperature as he threw the transmit switch. Then net control says, "Good morning OM just about to call you." Then there is the breaker who just can't wait and the operator who in turn ignores or forgets the breaker. A wonderful procedure if we just use it and don't abuse it.

Over the past years, we have had many new comers and non members check-in. There has always been extended an open right hand of welcome to any or all - old or new- to call in and be recognized and have their call and handle added to the Roll Call Sheet if they so wish.

Sometimes the breaker has traffic he can pass quickly; should he pass it now, after the net, or move to another frequency? There have been no specific rules of net conduct for 10 on 10 so reference to the non-existent book of rules solves nothing.

One session of 10 on 10 might encompass any or all of the above mentioned action and much more.

As I look back and review the past years, it seems to me, the conduct of the net control operator and the sparkling spirit of those checking in, with an air of informality and friendliness cannot be beat.

It behoves me to say that a net control operator should follow the general pattern of the past conduct, radiating this friendly Phil-Mont feeling of friendship throughout all sessions. This is not a game of the little boy who cries for his candy and the bully who simply refuses to give it to him, but a friendly gathering of Phil-Mont members on the air with their ham friends, just wanting to be a part of that 10 on 10 circle, each in his own small way.

There has been no attempt to put a shoe on someone's foot and less attempt to make him wear it. If someone feels that the shoe fits him, I make one humble request, put on a pair of "comfortable slippers of conduct" and join in the fun.

In essence, I cannot and I doubt if any committee could establish a set of rules that could do anything for the 10 on 10 net. It seems to me that all we need to do is to operate with due consideration for each other as a "Phil-Mont."

Lloyd, W3CDY

APOLOGY

Your Editor's secretary apologizes to each and every member of Phil-Mont for the poor appearance of several pages of the November "Blurb". This was caused by inadvertently using the wrong eraser to make several last minute changes and you may be assured it will not happen again. I am indeed very sorry.

Doris Curnow

I cannot help but share with Doris this regret and embarrassment. She had all the work finished and changed the perfect copy to make some deletions and additions at my request. It only serves to stress the importance of not trying to include material received after the acceptance deadline. Therefore, I join Doris in the apology this month and will find it necessary to refuse late material hereafter--Editor

FIELD DAY

The November QST carried the Field Day Scores this year, bringing the reports we were looking for. Phil-Mont, again, took top honors in the Mobile Aggregate Competition.

We found in the tabulation eight other mobile competitors, as against ten in 1964. Four clubs from the 1964 competition did not compete in 1965 and two new ones were among this year's participants. The 1964-65 runner-up, "Radio Amateur Mobile Society (Calif.)" scored higher this year while our score was less.

Having scored highest in Mobile Aggregate competition for a number of years, without a run for the money, appears to have lessened the challenge.

Field Day for 1966 is already announced for June 25th and 26th. Mobile activity is on the increase throughout the world. What about Mobile Aggregate Competition? Is there a challenge from a club somewhere in the U.S.A.? We do invite someone to try.

If any club wishes to challenge Phil-Mont, write to me (Editor) expressing your thoughts on the matter. It should be loads of fun.



"Merry Christmas"

PHIL-MONT ANNUAL DINNER DANCE

Saturday evening, November 13th was a night to erase the superstition of the Unlucky 13th. We had a grand time, thanks to W3WPD Al Lewis, Banquet Committee Chairman and his committee for a job well done! The food was delicious, the prizes excellent, the music tops, and the fellowship great! We were indeed honored to have W3YA Gilbert L. Crossley and his XYL Navonne in attendance and share the evening with us.

The evening was highlighted with the presentation of the awards by W3VVS H. Paul Bohlander. These awards are but a small way of saying, "We are grateful for your contribution to Phil-Mont." Sometimes this recognition is long overdue. Though a small reward on the part of the membership, it serves to crown the individual's effort. May we be ever more mindful as years pass of this opportunity we have to express ourselves toward those who give so much so willingly.

This year's LeRoy Hauser Memorial Award went to Clinton R. Spencer, Jr. W3QQH (better known as Jim) for his continued effort in club work, highlighted by his work on the new trailer. This is the second year for this award. The recipient of the award in 1964 was Fredwood S. Shaw W3ADV.

Phil-Mont 1965 went to two most deserving members. William (Bill) F. Bubeck W3YHV has been instrumental in improving the "BLURB" in its printing and played the major role of obtaining our latest Multilith machine and has printed the material for the "BLURB" for several years. Charles (Charlie) S. Gilbert, Jr. W3YJM was given a duplicate Phil-Mont 1965 award for his long service as Net Control for the 10-on-10 Net that meets on 29.493 mc at 10 AM every Sunday.

The Lady Phil-Mont 1965 Award went to Dorothy (Dot) Jorett W3ZLE for her continued support of Phil-Mont and its activities.

The Iduabmug (Id-ob-mug) Award for 1965 went to John J. Tinaglia W3AWH for one of those disconcerting situations of finding a receiver on Channel One (1) inoperative because the cord is not plugged into the wall receptable. It is most certain, John, you symbolized others who shared your frustrating situation.

VISITORS AT NOVEMBER MEETING

Robert Wood (no call at present); K3NYL (he didn't leave us his name); WA9BQF Al Fisher, a student at Drexel, and K3RSX Frank Szenher. It was a pleasure to have you as visitors, and feel free to come again at your convenience.

JUST A THOUGHT

No need to check WWV when Ernie W3D\$G is NCS for 10-on-10 as he gives check-in time in hours; minutes; seconds, and fractions thereof.

Wonder when he will get around to telling us how many cycles off freq. we are.

ANON

NOMINATIONS AND RULES OF ELECTION

The following nominations were presented by the nominating committee at the November meeting. They are to be commended for this fine effort. They now call upon you for your full support for the election at the December meeting. We're looking forward to seeing you on December 6th.

For President: W3ADV, Fredwood Shaw, Newtown Square; K3KUD, Robert Schmijewske, Glenside; W3JYA, James Hartman, Havertown; and W3QZO, Robert Thomas, (216 Sunrise Lane) Philadelphia.

For Secretary: K3EZJ, George Walker, Haverford; WA2RDC, Dave Anderson, Runnemede, N.J.; K3UWO, Robert Mynster, Lansdale.

Treasurer: K3DJE, Robert Diefenderfer, Norristown; W3GOW, Charles Greenwood, Devon; K3RTR, Sam Moskovitz, Upper Darby.

Directors: W3AJO, Kermit B. Crowell, Philadelphia; K3OEJ, Arthur Garner, Havertown; and W3MHR, George Weed, Wyncoate.



The "Rules of Elections" is printed herewith for your guidance in the up-coming election.

1. A nominating committee, consisting of at least three members, shall be appointed by the President.

2. Nominating committee members are permitted to run for office but only upon petition from the membership. The committee cannot nominate themselves. The petition must be signed by at least five members and be presented to the nominating committee chairman at the November meeting to be included on the slate of nominees.

3. All offices are to have two or more nominees.

4. Nominations are to be announced at the November regular meeting.

5. Nominations will be accepted from the floor at the November regular meeting after announcement of the slate of nominees presented by the nominating committee.

6. Only members who have previously indicated their willingness to run can be nominated for office.

7. No information on the nominees is to be given out prior to the November meeting. Only members who have accepted nomination will be announced. All others are to be kept confidential.

8. All nominations are closed at the conclusion of the November meeting.

9. Nominees for each office shall be listed alphabetically by call on the ballot and on the published list.

10. After the nominations have been closed, at the regular November meeting, the President shall appoint a Board of Elections, consisting of a chairman and two members. It shall be the function of this Board to supervise the December election, carry out the by-laws, and the Rules of Election, and to resolve any problems associated with the election which are not covered by the by-laws and the Rules of Elections.

11. Electioneering shall be encouraged, on the part of all candidates, with the official club publication carrying profiles of the candidates. In addition, the regular December meeting, the candidates for President and Vice-President shall be given equal time for campaign speeches. The campaign speeches at the December meeting are to be from three to five minutes in length.

12. The nominees for each office shall be put together on the nomination slate. Each officer must be elected by a simple majority of those voting, eliminating the candidate with the lowest vote. Balloting must continue until a simple majority is reached for each office.

PROFILES OF THE PRESIDENTIAL CANDIDATES

W3ADV Fredwood Shaw recently moved from Drexel Hill to his new QTH in Newtown Square. Fred has been a member of Phil-Mont for about 10 years, and held his amateur license for 45 years. His present licenses are Advanced Amateur and First Class Radiotelephone. He has been employed with Bell Telephone for 42 years and serves in the capacity of a Transmission Engineer. Fred and his XYL Emma have 3 children who blessed them with 8 grandchildren so far.

W3JYA James H. Hartman recently moved from the old to his new and larger residence in Havertown. Jim has been a member of Phil-Mont for about 5 years and holds his ticket for about 7 years. He has served as a technical writer and manager of Electronic Measurements. In the past he has been active in the aircraft field and holds a currently active Private Pilot's Certificate. Jim and his XYL Skip have 7 children. He was handling the Communications Department for Kass Electronics until recently, when he became self-employed in the Communications Equipment Service business.

K3KUD Robert G. Schmileske has his QTH in Glenside with his wife Peg and their son. He has been a member of Phil-Mont for about 5 years and holds his ham ticket for about 6 years. Bob has been the previous Editor of the "BLURB" and enjoys photography as a second hobby. Bob is a veteran of World War II when he served in the infantry. He has traveled frequently in Europe and South America and has been employed by the Navy Yard for the past 27 years.

W3QZO Robert George Thomas and his wife Phyllis have taken residence in a new home in Philadelphia not too long ago. He holds Phil-Mont membership for about 11 years. He is a former President of Phil-Mont, Editor of the "BLURB", and Field Day Chairman. Bob has held his amateur ticket for 15 years, and been employed with RCA for 14 years. He holds a Bachelor's degree in Electrical Engineering, and has studied Teacher Training for several extra years.

OPEN HOUSE

November 6th was Open House at Ham Buerger's new location, 815 Greenwood Avenue, Jenkintown. There was plenty of parking space since Mr. Buerger owns the adjoining lot. The Phil-Mont trailer and truck were on display from 9 AM - 5 PM with K3KUD, W3MHR, W3GIF acting as hosts. At least 350 guests went through the trailer. Unfortunately, no Phil-Monters were lucky to win any of the prizes.

READING "RRC BULLETIN" carried a report of "25 Years Ago" and who do you think was the speaker at their October Meeting? W3QV Brad Martin - that OT whose acquaintance we cherish! Just "shows-to-go-you" he's been busy all the while.

We are fortunate, indeed, to be able to publish for the presentation by W3MHR, George Weed at the November meeting. The applause following his presentation, validated the speakers opinion and the many CW men in attendance -- or -- they really enjoyed it. So for your reading pleasure:

CW IS HERE TO STAY

Many hams, I suspect wonder why, in this day and age of AM, SSB, FSK, Phase Mod., Ham TV, Moon Bounce, 2KW PEP Linears, RTTY, Scatter, Satellites, etc., manufacturers even bother to put a CW position on their sophisticated rigs. Notwithstanding with their thinking, there most certainly are a number of very good reasons why this ancient method of passing the word is still held in esteem by a great number in the radio community. Perhaps it would be best to run over the background of CW and then go over the reasons of why it is still quite popular with certain radio amateurs.

Perhaps the start of CW was the jungle drum. DX was limited, with this type of CW. Good drum operators were hard to find and each tribe spoke a different lingo and had a different code. Many famous names worked on the problem over the years. Men such as Leyden, Volta, Oersted, Ampere, Wheatstone and Gauss all contributed to the final result. It took a gent with an unglamorous name of Sam Morse to tie the solution into a neat package and put it on the market. Now Sam had his problems. His first try at CW ran something like this: Sam set up a circuit much like this sketch (confidential) with his helper acting as the load. Sam hardly had the letter "e" sent when his helper found himself on the deck. After picking himself up, his helper then uttered the now famous saying, "Sam, are you helping with the solution, or becoming part of the problem?" This set Sam to thinking, and he dug back into the works of his above mentioned predecessors and came up with a sounder to replace his helper. Thus, CW was well on its way to becoming the mystic part of amateur radio we know today. A famous Norseman Eric Marconi did the spade work of putting it in the final form we presently use. That, in a nut (and I mean NUT) shell, takes care of the history angle.

The popularity of CW has waxed and waned over the years pretty much in keeping with the economic cycle. Apply to this cycle the economic situation of the individual ham, his technical ability and many other personality factors, and you have pretty much the mess you find on the ham bands today. To get down to cases, let's consider the many advantages of CW over almost any other form of communication, especially voice.

1. CW is cheaper. Obviously, no need for modulator, power supply, microphone. This put the preponderance of hams on CW in the 30's.
2. More miles per watt. There are those who will try to argue this point, but in vain.
3. Much more adaptable to the illiterate. Vocabulary requirements minor. Contact usually short, with report, QTH, name, WX, power, and 73. How easy can you make it?
4. Speech problems of no consequence. If you lisp, stutter, or what-have-you, no one will know.

5. If you are not an inveterate windbag, this is your mode.
6. Difficult to get trapped into a technical discussion which you are not qualified to handle. You don't have to bluff your way through or put yourself out on a limb for the wise-guy on the other end to cut off.
7. No worry over mike fright. You can be a deamon at the key, even if you're a goof at the mike.
8. Normally use earphones, which can be a tremendous advantage. Keep out sound of noisy kids, crabby wife, etc. If you want to get away from it all, put on the cans, just sit there. No one in the family will know what you're doing - just wave them away if they start asking you a question.
9. By nature, limits use of the frequencies. One has only to listen to most sideband contacts to realize how much transmitting time is wasted on hog-wash. The long, drawn-out orations on non-essential subjects such as last summer's vacation, Aunt Minnie's lumbago, local politics, how to make a good martini, etc.

However, friends, if you prefer SSB, AM, RTTY or what-have-you, be my guest. In fact, I'm all for eliminating the need for a code exam for any class license. The fewer we have on the CW frequencies, the better. There is QRM enough now!

CHANNEL CHATTER

W3GIF arriving at Blurb folding just as the last one was being stapled....W3LEM in Abington Hospital for several weeks, Ed reports doing fine business now....W3BMS, George Hall, retired owner of Consolidated Radio, moving to Solebury. George is quite active on 20m, especially into the wee hours of the morning....Jerry Mathis, W3BES and XYL back from a vacation in Hawaii and Alaska....W3KV/4 waiting for hurricane season to pass so he can put up his pole and beams....K3CEE up to his neck in shcool work. Bob has found some active 6M FM fellows in Milwaukee....W3QV told by the Doc to give his voice a 4 weeks rest, thus the silence on the frequency these days....W3QQH working on the mule hill repeater....George, PXY, working in Baltimore for 3 months....W3PDJ, Dick Moll, worked K4VQQ, Bruce Williams formerly W3KCG. Bruce now lives in Orlando, Florida, works at Cape Kennedy.

A close call!--On Tuesday, November 9th, Jim Spencer was working in his shop in North Hills when a call came over the Abington Police receiver that a man was hanging from the edge of a house roof. The fire siren was rung to call for assistance of the Edge Hill Fire Company's ladder truck. Jim left immediately and was first to take the call at the fire house. After being given the location he left for the house just 2 blocks away. Upon his arrival he found the man hanging by his fingers on a metal roof which had been freshly painted. He went up through the house and out on to the roof. Another fireman had arrived in the meantime so that he and Jim were able to pull the man up and into the house unhurt.

Clinton R. Spencer, Jr., W3QQH, and known as Jim to Phil-Mont and his friends is to be highly commended for his prompt response, clear thinking and courageous conduct in averting what might have been a fatal fall for the victim - A Phil-Monter in action--Editor

NOTES ON CONVERTING MOTOROLA FM RADIOS

By Jim McMechan,* WØPFP

There are a lot of old Motorola FM radios of the 30 D transmitter and FMAR 13 V receiver types available to amateurs now at very reasonable prices. These notes are to enable the conversion of this equipment to the 6 meter amateur band. In central Iowa we are using 52.525 Mc. and 52.640 Mc. This requires the use of the following crystal frequencies:

Frequency	Receiver Crystal	Transmitter Crystal
52.525 Mc.	8037.5 Kc	1641.40625 Kc.
52.640 Mc.	8056.67 Kc.	1645.00000 Kc.

Most of the units we have obtained came equipped with the K8102, two-frequency adapter for the transmitter. If you do not have one, it may be easily made using a Mini-box. In any case, each crystal socket needs to have a trimmer capacitor in parallel with it. I normally use Erie type 557 8-50 pf. trimmers as they are quite small and have an adequate range. These trimmers allow each transmitter to be tuned to frequency.

Conversion of the transmitter is reasonably simple. Transformer T1 is modified by removing 20 turns. In some cases the oscillator does not always start under load if this is done, so a better modification is to rewind T1 with 44 turns in each half of the winding using the original wire. In the case of T2, merely remove $8\frac{1}{2}$ feet (that's right, feet, not turns.) T3 in our units required removing 8 turns from each coil. T4 requires the removal of 4 rotor and 4 stator plates from each capacitor as well as the removal of $\frac{1}{2}$ turns from each coil. Move the bottom coil up so the two coils are separated by $\frac{1}{4}$ inch. These modified coils should have 12 turns. T5 also requires removal of 4 rotor and 4 stator plates from the capacitor and 1 turn from $\frac{1}{2}$ each end of the coil leaving 3 turns tapped 1 turn from the top of the coil.

The final tank coil is 4 turns of the original coil. There may be several capacitors in parallel with the loading capacitor, so remove all these but the tubular ceramic which in most units is brownish-black in color and 75 pf. in value. These capacitors are to adjust the loading to the middle of the variable loading capacitor range.

Tune up is much easier if an absorption wavemeter is used to insure that each transformer is on the proper frequency. These frequencies are:

T-1 and T-2	1640 Kc.
T-3	6.5 Mc.
T-4	26 Mc.
T-5 and Final	52 Mc.

Since the Motorola units were made in 3 frequency range groups, any unit may have different transformers than we found. However, the instructions given show the number of turns in the modified transformers as needed for 50 Mc. operation.

In order to obtain more drive for the 807, the quadrupler screen voltages may be raised. This is done by changing the two 150 K, 1 Watt resistors on the resistor board at the end of the chassis to 68 K, 2 W. If you are going to use the two-frequency adaptor, be sure there is a 5 pf. capacitor from grid to plate of the 7C7 oscillator stage. Also some units do not have an 18 K, $\frac{1}{2}$ W resistor from grid to ground on each of the 7A8 modulator tubes. If you cannot find these resistors, add them (unless your unit uses the speech clipper which is a board mounted vertically over the mike transformer.) Finally, on the numbered terminal strip behind the front chassis edge, check the value of the resistor between terminals #19 and #20. This is the mike dropping resistor and should be 470 ohms for 6 volts, 1K for 12 volts and 820 ohms for 12 volts when using the speech clipper.

Typical meter readings obtained from a properly operating unit with a 2K, 50 microampere meter are given in the following table:

Meter Switch Position	Meter Reading
1 Oscillator bias	-30
2 1st Quadrupler grid	-18
3 2nd Quadrupler grid	-27
4 Doubler grid	-20
5 Final grid	-20
PA Final cathode current	Depends on loading
Mod Modulator Bias	-22

The receiver changes are easier, so if you have gotten this far you are about done. The first problem is to determine which of the several models of this receiver you have. Most of our receivers have small coils in shields about one inch square which are marked T810, T811 and T812. The IF transformers in this receiver are of the same type. The 1st IF is 4.3 Mc and the 2nd IF is 1.7 Mc. The second type receiver has large RF transformers which look like the coils in the transmitter, but with the small 2nd IF transformers. The RF coils are marked T811 and T812. This receiver has an APC trimmer for the antenna coil tuning. The intermediate frequencies are the same as for the first receiver. There is also a third receiver which has the large transmitter-size coils for both RF and IF coils. This receiver has a 4.3 Mc. 1st IF and a 455 Kc. 2nd IF. Finally, the fourth type is the precision selectivity receiver which has three of the small-sized transformers between the RF amplifier and mixer and 2.7 Mc. 1st IF and a 2.0 Mc 2nd IF. These receiver transformers are marked T820, T821, T822 and T823. The following modifications have been made on the first three receivers mentioned but do not apply to the precision selectivity model nor do the crystal frequencies given earlier apply to this model.

The receiver with the small RF transformers will be described first. Turns are to be removed from T810, T811 and T812 and it is suggested that they be removed from the top of the coil form to allow the greatest tuning range. On T810 leave $7\frac{1}{2}$ turns, on T811 leave 7 turns in each coil and for T812 leave 7 turns on each coil. This completes the modification of the receiver. Plug in the new high-frequency local oscillator crystal (8 Mc) and retune the receiver.

The receivers having the large size RF transformers require the removal of 3 turns from the antenna coil, leaving 7 turns. On T812 remove 2 turns leaving 4 turns. The oscillator coil T811 may have several windings. Be careful to disturb only the winding tuned by the variable capacitor and remove 3 turns leaving 5 turns.

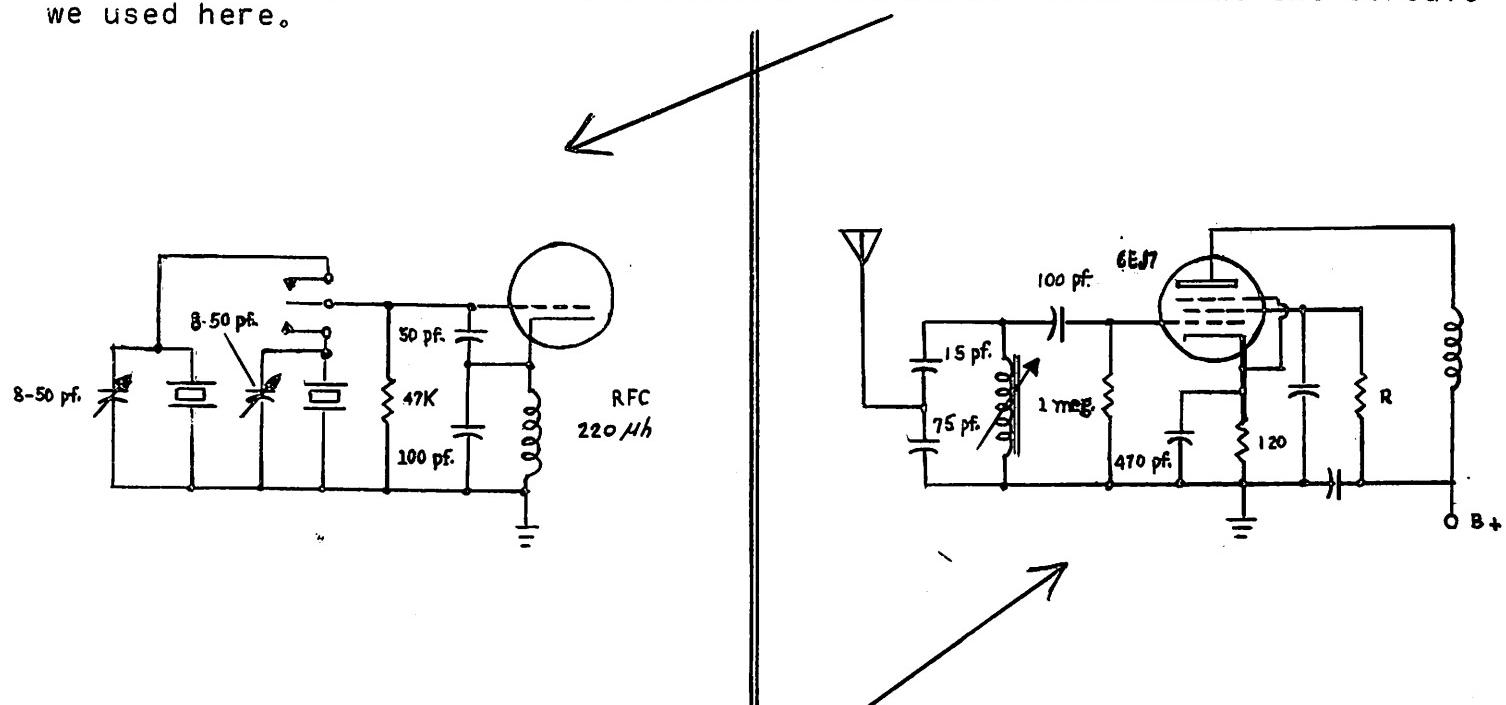
The meter switch positions are listed below to make the tune-up easier. Use a 2K, 50 microampere meter.

Meter Switch Position

- | | |
|------------------------------|--------------------------|
| 1. 1st Low Frequency IF grid | 4. Discriminator Balance |
| 2. 1st Limiter grid | 5. Discriminator Primary |
| 3. 2nd Limiter grid | |

If it is desired to use the receiver on two frequencies, several changes are necessary. In the transmitter add a lead from pin 5 of the octal plug to pin 2 of the 6 prong socket. The Motorola cables have this lead run to the receiver. This will allow both the transmitter and receiver frequency change relays to operate together. In the receiver add a DPDT relay of

appropriate coil voltage with one lead of the coil to ground and the other coil lead to pin 2 of the 6 prong plug. Wire the relay contacts to a double crystal socket which has an 8-50 pf. trimmer in parallel with each crystal socket. The common contact of the relay goes to the oscillator grid. When changing the receiver to 2-frequency operation it is advisable to change the high-frequency oscillator to a Colpitts circuit in place of the Tri-tet circuit normally found in the receiver. The sketch below shows the circuit we used here.



The major job left is optional but well worth the effort. WØLRY suggested changing the first RF amplifier to a 6EJ7. Except for the change in the socket this is not too difficult. Position the grid pin close to the input coil. In the mobile receivers with the small RF transformers, use the original cathode resistor and change the screen resistor to a 1K, 1W. If the grid resistor is 3.3 Meg. or 4.7 Meg., replace it with a 1 Meg. resistor. Since the 6EJ7 filament requires 300 ma., the 12 volt mobile receiver requires a 42 ohm 2W resistor to balance the filament current. Usually this may be added in parallel with the 7C5 filament but it would be wise to check the filament wiring to be sure. Since the 6EJ7 pin connections are somewhat difficult to find, here they are:

1-cathode. 2-grid 1. 3-cathode. 4-heater. 5-heater. 6-internal shield (do not use.) 7-plate. 8-screen. 9-suppressor grid (tie to cathode at socket.)

In the large-sized transformer receiver it may be necessary to remove the APC trimmer and associated coil if trouble is experienced with oscillation. Replace it with a shielded $\frac{1}{4}$ " coil as shown below:

Adjust the number of turns in this new coil, starting with about 7 turns spaced $\frac{1}{2}$ inch, for resonance with the capacitor values given. Notice that these capacitors form an R-9er type input circuit. Screen voltage on the 6EJ7 should be about 180 volts and the screen resistor (R) is selected to give this voltage in normal operation.

GREETINGS
AND BEST WISHES
FOR THE NEW YEAR

SWAP AND SHOP

McIntosh MR67 Stereo FM Tuner - like new - Regular \$299 \$125.00
Norelco 150 Tape Recorder, W/3 cartridges and mike
perfect condition (used only once) - Regular \$120 \$ 50.00
W3QCV Lawrence LePage Mi 2-1821

Warrior KW Linear Heath HA-10 \$175.00

All Band 100 watt SSB Station consisting
of Heath

HX-20 Transmitter
HR-20 Receiver
HP-20 AC Power Supply
HP-10 DC Power Supply

All in fine condition \$250.00

W3YHV Bill Bubeck Br 2-6239

1 Model RAS-5 Receiver and Manual (complete with coils and
Rack, freq. 190 - 30,000 kc, 115V 60 cycle)

Al Wharton Or 3-1983

FREE Glass-epoxy printed circuit board, one ounce copper one side.
Let me know your needs. Loan of complete operating and maintenance
instructions for 100-156 megacycle transceiver model AN/ARC-1.

SALE - Dynamoter, Carter, 6VDC to 600VDC 170MA. Reasonable
price or swap.

WANTED - Six meter verticle base station antenna, ground
plane or coax.

W3JKH Gerard A. Baldauf
175 Wernersville Blvd.
Wernersville, Pa.
(215) 678-3980, 929-5811
Ext. 2113, 2116, 2305

NC190 Receiver	\$150.00
Johnson Challenger X	90.00
G76 W/AC PS	250.00
KWM-2 W/AC PS	850.00

W3WNC Hy Hecht EI 6-0831

WANTED

Collins 32V3 Xmtr - Condition: like new

W3QZO Bob Thomas Ch 7-2427



THE KRITIC'S KORNER - by WALTER WINCH

I "suppose" Phil-Mont should be complimented on the "talent" they have discovered in the performance delivered by CDY - OEJ and RTR at Phil-Mont's Annual Banquet.

"Don't call us, we'll call you" was the comment of one Hollywood Scout in the audience. Another comment by a noted columnist: "Can't those three nuts read English?" W3CDY, the producer of the three skits commented: "We should have had a rehearsal." K3OEJ in an interview, said: "How did I ever get mixed up in all this?" And what K3RTR said should be left unsaid as no one would understand him anyway.

The End

AN EDITOR'S 73

The writings in this month, the December "BLURB", again report many of the Phil-Mont activities. The Annual Dinner Dance, an affair where we gather not by decree but of our own free will, gives us an opportunity to show our gratitude to the ladies and to the Phil-Mont members for what they have done for the past year.

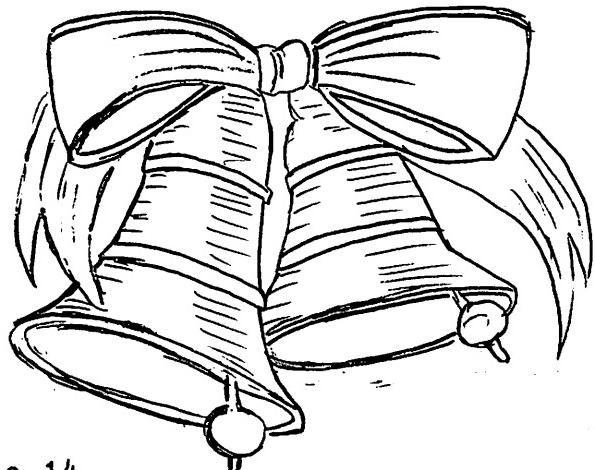
The awards are designed for the prime purpose of expressing such appreciation and it seems most appropriate that we conduct our affair in the month of November, the month in which we observe the day of National Thanksgiving.

I cannot help but think that we owe many thanks to the active members for the work load they carry in conducting the affairs of the club throughout the normal year. Even though not all share a like opinion, there is little doubt that each and everyone has the interest of the club at heart.

As we move into the month of December, the elections will select the new officers for the ensuing year. Let's give them our wholehearted support for a new and better year in 1966.

As the Editor of this paper, I want to thank all of those who have contributed so generously and helped to lighten the load. And to all of you, the readers, I wish to extend a Merry Christmas and a Happy New Year, or the best in Seasons Greetings.....Editor W3CDY

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"Peace
and Goodwill"

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